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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,394	01/11/2002	Maxime Augustin Allard	IN-5531	1516
26922	7590	10/23/2003	EXAMINER	
BASF CORPORATION ANNE GERRY SABOURIN 26701 TELEGRAPH ROAD SOUTHFIELD, MI 48034-2442				
			ART UNIT	PAPER NUMBER
			1711	

DATE MAILED: 10/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/009,394	Applicant(s) ALLARD ET AL.	
	Examiner Sanza L. McClendon	Art Unit 1711	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 January 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
- 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
- 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>not sent</u> . | 6) <input type="checkbox"/> Other:  |

DETAILED ACTION

*Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1,3-5, and 7-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. The term "conjointly" in claims 1, 3-5 and 7-8 is a relative term, which renders the claim indefinite. The term "conjointly" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear if applicant means to cure using thermal and radiant energy at the same time or if these energies can be applied one after the other. In addition, it is unclear if the heat generated from the radiant energy in the curing process is acceptable as a conjoint curing process. Clarification is requested.

*Claim Rejections - 35 USC § 103*

Art Unit: 1711

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lahrman et al (5,425,970) in view of Sirkoch et al (4,634,602).

Lahrman et al teaches process for the production of multi-coat lacquer coatings useful in automotive industries, which have high resistance to chemicals, good scratch resistance and high optical quality—see column 9, lines 1-4 and 12-16. Said process comprises coating at least one thermally curable clear lacquer onto a pigmented base coat and crosslinking by heat and further coating onto said thermally curable layer at least one radiation-curable clear coat composition and subsequently crosslinking using actinic radiation. Lahrman et al teaches radiation curing can be preformed in stages, wherein it is possible to perform thermal crosslinking in addition to radiation crosslinking of the final clear lacquer composition. The first thermally curable clear coat can be either dried or baked once coated onto the pigmented base lacquer to form a base coat/clear lacquer two-coat coating. The base coat can be dried before application of the thermal clear coat or said thermal clear coat can be applied wet-on-wet to the base coat, whereupon both are dried or baked together. Before applying the radiation clear coat, the underlying coatings can be

Art Unit: 1711

sanded or, optionally further heat-curable coated can be applied. The radiation clear coat can be cured such that thorough crosslinking takes place in one stage or cured to a pre-gel stage, using, for instance a black light, and then fully cured by UV-induced crosslinking. It is also possible to use thermal activation for crosslinking said top radiation clear coat, wherein said coating can be cured either simultaneously or subsequently with both radiation and thermal energies—see column 8, lines 20-24. Said radiation curable clear lacquer comprise prepolymers, having olefinically unsaturated bonds, which may, optionally be dissolved in reactive diluents, and, additionally comprise customary initiators, transparent pigments and/or other lacquer additives. Said prepolymers can comprises those listed in column 5, lines 12-22, said reactive diluents can be found in column 5, lines 23-40, said initiators can be found in column 5, lines 41-56, said thermal initiators can be found in column 5, lines 60 to the end, and said transparent pigments and/or extenders can be found in column 35 to 43 and include titanium dioxide and silicon dioxide and have particles sizes in nanometer lengths. The combination of said components appears to read on claims 10-12. It is noted that Lahrman et al does not expressly teach that said first (heat-curable) coating are both curable by thermal and actinic radiation. However, it is known in the prior art to produce multi-lacquer coatings that are both radiation and thermally curable.

Sirkoch et al teaches primer compositions for metal substrates, such as coils—see column 2, lines 6-7. Sirkoch et al teaches composition comprising a radiation-sensitive compound, a non-radiation sensitive compound, and a crosslinking

Art Unit: 1711

agent, which is capable of being cured using heat and either ultraviolet light or ionizing radiation. Sirkoch teaches said primer compositions can be over-coated with a topcoat composition that is capable of curing using thermal energy or actinic radiations. Sirkoch et al teaches applying said primer coating compositions to a substrate partially curing it in a first curing step and further curing in a second curing step. Wherein in one step is cured using either ultraviolet radiation or ionizing radiation and the second step is cured using thermal energy. In the case where a topcoat is applied to said primer coating, the primer is partially cured, the topcoat is applied, and then the multi-coated substrate is fully cured. Sirkoch et al teaches after the primer composition is applied to a substrate it is partially cured using either ultraviolet radiation or ionizing radiation. The partially cured substrate is coated with a topcoat composition and cured using thermal energy, such as infrared heating. However, Sirkoch et al teaches that if the top coating is radiation curable then the primer coating should be partially cured thermally in the first-step and then cured using either ultra-violet radiation or ionizing radiation in the second step.

Lahrman et al and Sirkoch et al are analogous art because they are from the same field of endeavor that is the art of multi-lacquer coating for metal substrates.

Therefore, the examiner contends that it would have been obvious for an ordinarily skilled artisan at the time of the invention to produce a multi-layer coating by (1) applying at least one clear coat film of a coating composition that is curable thermally and with actinic radiation to the surface of a substrate as taught

Art Unit: 1711

by Sirkoch et al, and partially curing it, (2) applying a further clear coating film of a coating composition comprising nanoparticles and curable by actinic radiation, optionally with thermal energy, to the surface of the clear coat film in step (1) and (3) curing both clear coat films conjointly with actinic and thermal energies, as taught by Lahrman et al. The motivation would have been to improve the intercoat adhesion between the clear-coats as taught by Sirkoch et al—see column 2, lines 8-16 and Lahrman et al—see column 8, lines 50-68. The examiner contends that the combination of said reference also renders claims 2 and 6 obvious because Lahrman et al teaches that said basecoat/clear coat layers can be sanded prior to application of said top-clear coat—see column 2, lines 65 to the end. Claims 3 and 7 are rendered obvious because Lahrman et al teaches said basecoat can either be pre-baked or dried before application of said first clear coat layer which is applicable in a wet-on-wet process and the basecoat/clear coat can be baked and/or dried together before application of the top clear coat which is then subsequently crosslinked via radiation and can be either simultaneously or subsequently thermally cured to produce a fully cured multi-layer lacquer system. The examiner contends claims 4 and 8 are, also, rendered obvious because Lahrman et al teaches applying a colored basecoat to a substrate that is thermally curable and drying said basecoat and applying a clear coat in a wet-on-wt process to the surface of said basecoat. Sirkoch et al teaches that said clear coats/primer can be simultaneously cured using actinic and thermal energies, wherein Lahrman et al teaches said base/clear coats can be sanded before application of a top-clear coat that comprises nanoparticles sized pigments/extenders

Art Unit: 1711

to the base/clear coat layer, which is then cured using radiant energy. The motivation of said process would be to improve inter coat adhesion, as well as, improved adhesion to the metal substrate as taught by both Sirkoch et al and Lahrmann et al.

*Conclusion*

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 5,106,651 to Tyger et al teaches multi-layer coatings process for automotive parts comprising curing using thermal energy and then exposing to radiation to improve resistance to water-spotting and acid etching.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L McClendon whose telephone number is (703) 305-0505. The examiner can normally be reached on Monday through Friday 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (703) 308-2462. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0657.



Application/Control Number: 10/009,394

Page 8

Art Unit: 1711

Sanza L McClendon

Examiner

Art Unit 1711

SMc

  
SAMUEL A. ACQUAH  
PRIMARY EXAMINER  
GROUP 2 1700